

REFERENCE: CALTRANS SOIL &amp; ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (2010)

GROUP SYMBOLS AND NAMES			
GRAPHIC/SYMBOL	GROUP NAMES	GRAPHIC/SYMBOL	GROUP NAMES
	GW WELL-GRADED GRAVEL		CL LEAN CLAY
	GP POORLY-GRADED GRAVEL		CL LEAN CLAY WITH SAND
	GW-GM WELL-GRADED GRAVEL WITH SAND		CL SANDY LEAN CLAY
	GP-GM POORLY-GRADED GRAVEL WITH SAND		CL SANDY LEAN CLAY WITH GRAVEL
	GW-GM WELL-GRADED GRAVEL WITH SILT		CL GRAVELLY LEAN CLAY
	GP-GM POORLY-GRADED GRAVEL WITH SILT		CL GRAVELLY LEAN CLAY WITH SAND
	GW-GC WELL-GRADED GRAVEL WITH SILT AND SAND		CL-ML SILTY CLAY
	GP-GC POORLY-GRADED GRAVEL WITH SILT AND SAND		CL-ML SILTY CLAY WITH SAND
	GW-GC WELL-GRADED GRAVEL WITH CLAY		CL-ML SILTY CLAY WITH GRAVEL
	GP-GC POORLY-GRADED GRAVEL WITH CLAY		CL-ML SANDY SILTY CLAY
	GW-GC WELL-GRADED GRAVEL WITH CLAY AND SAND		CL-ML GRAVELLY SILTY CLAY
	GP-GC POORLY-GRADED GRAVEL WITH CLAY AND SAND		CL-ML GRAVELLY SILTY CLAY WITH SAND
	GM SILTY GRAVEL		ML SILT
	GC CLAYEY GRAVEL		ML SILT WITH GRAVEL
	GC CLAYEY GRAVEL WITH SAND		ML SANDY SILT
	GC-GM SILTY, CLAYEY GRAVEL		ML SANDY SILT WITH GRAVEL
	GC-GM SILTY, CLAYEY GRAVEL WITH SAND		ML GRAVELLY SILT
	SW WELL-GRADED SAND		ML GRAVELLY SILT WITH SAND
	SW WELL-GRADED SAND WITH GRAVEL		OL ORGANIC LEAN CLAY
	SP POORLY-GRADED SAND		OL ORGANIC LEAN CLAY WITH SAND
	SP POORLY-GRADED SAND WITH GRAVEL		OL ORGANIC LEAN CLAY WITH GRAVEL
	SW-SM WELL-GRADED SAND WITH SILT		OL SANDY ORGANIC LEAN CLAY
	SW-SM WELL-GRADED SAND WITH SILT AND GRAVEL		OL SANDY ORGANIC LEAN CLAY WITH GRAVEL
	SW-SC WELL-GRADED SAND WITH CLAY		OL GRAVELLY ORGANIC LEAN CLAY
	SW-SC WELL-GRADED SAND WITH CLAY AND GRAVEL		OL GRAVELLY ORGANIC LEAN CLAY WITH SAND
	SP-SM POORLY-GRADED SAND WITH SILT		OL GRAVELLY ORGANIC LEAN CLAY WITH SAND
	SP-SM POORLY-GRADED SAND WITH SILT AND GRAVEL		CH FAT CLAY
	SP-SC POORLY-GRADED SAND WITH CLAY		CH FAT CLAY WITH SAND
	SP-SC POORLY-GRADED SAND WITH CLAY AND GRAVEL		CH SANDY FAT CLAY
	SM SILTY SAND		CH SANDY FAT CLAY WITH GRAVEL
	SM SILTY SAND WITH GRAVEL		CH GRAVELLY FAT CLAY
	SC CLAYEY SAND		CH GRAVELLY FAT CLAY WITH SAND
	SC CLAYEY SAND WITH GRAVEL		MH ELASTIC SILT
	SC-SM SILTY, CLAYEY SAND		MH ELASTIC SILT WITH SAND
	SC-SM SILTY, CLAYEY SAND WITH GRAVEL		MH ELASTIC SILT WITH GRAVEL
	PT PEAT		MH SANDY ELASTIC SILT
	PT COBBLES		MH SANDY ELASTIC SILT WITH GRAVEL
	PT BOULDERS		MH GRAVELLY ELASTIC SILT
	OL/OH ORGANIC SOIL		MH GRAVELLY ELASTIC SILT WITH SAND
	OL/OH ORGANIC SOIL WITH SAND		MH GRAVELLY ELASTIC SILT WITH GRAVEL
	OL/OH ORGANIC SOIL WITH GRAVEL		OH SANDY ORGANIC SOIL
	OL/OH ORGANIC SOIL WITH GRAVEL		OH SANDY ORGANIC SOIL WITH GRAVEL
	OL/OH ORGANIC SOIL WITH GRAVEL		OH GRAVELLY ORGANIC SOIL
	OL/OH ORGANIC SOIL WITH GRAVEL		OH GRAVELLY ORGANIC SOIL WITH SAND

## FIELD AND LABORATORY TESTING

- (C) CONSOLIDATION (ASTM D2435)
- (CL) COLLAPSE POTENTIAL (ASTM D4546)
- (CP) COMPACTION CURVE (CTM 216)
- (CR) CORROSIVITY TESTING (CTM 643, CTM 422, CTM 417)
- (CU) CONSOLIDATED UNDRAINED TRIAXIAL (ASTM D4767)
- (DS) DIRECT SHEAR (ASTM D3080)
- (EI) EXPANSION INDEX (ASTM D4829)
- (M) MOISTURE CONTENT (ASTM D2216)
- (OC) ORGANIC CONTENT-% (ASTM D2974)
- (P) PERMEABILITY (CTM 220)
- (PA) PARTICLE SIZE ANALYSIS (ASTM D422)
- (PI) PLASTICITY INDEX (AASHTO T 90) LIQUID LIMIT (AASHTO T 89)
- (PL) POINT LOAD INDEX (ASTM D5731)
- (PM) PRESSURE METER
- (R) R-VALUE (CTM 301)
- (SE) SAND EQUIVALENT (CTM 217)
- (SG) SPECIFIC GRAVITY (AASHTO T 100)
- (SL) SHRINKAGE LIMIT (ASTM D4943)
- (SW) SWELL POTENTIAL (ASTM D4546)
- (UC) UNCONFINED COMPRESSION-SOIL (ASTM D2166)
- (UC) UNCONFINED COMPRESSION-ROCK (ASTM D7012 - METHOD C)
- (UU) UNCONSOLIDATED UNDRAINED TRIAXIAL (ASTM D2850)
- (UW) UNIT WEIGHT (ASTM D7263 - METHOD B)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

*Chris A. Hudson*  
CERTIFIED ENGINEERING GEOLOGIST

May 31, 2018  
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED GEOLOGIST  
CHRIS A. HUDSON  
No. 2541  
Exp. 12-31-2020  
STATE OF CALIFORNIA

## APPARENT DENSITY OF COHESIONLESS SOILS

DESCRIPTION	SPT N <sub>60</sub> (BLOWS / 12 INCHES)
VERY LOOSE	0 - 5
LOOSE	5 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	GREATER THAN 50

## MOISTURE

DESCRIPTION	CRITERIA
DRY	NO DISCERNABLE MOISTURE
MOIST	MOISTURE PRESENT, BUT NO FREE WATER
WET	VISIBLE FREE WATER

## PERCENT OR PROPORTION OF SOILS

DESCRIPTION	CRITERIA
TRACE	PARTICLES ARE PRESENT BUT ESTIMATED TO BE LESS THAN 5%
FEW	5% - 10%
LITTLE	15% - 25%
SOME	30% - 45%
MOSTLY	50% - 100%

## PARTICLE SIZE

DESCRIPTION	SIZE
BOULDER	GREATER THAN 12"
COBBLE	3" - 12"
GRAVEL	COARSE 3/4" - 3"
	FINE 1/5" - 3/4"
SAND	COARSE 1/16" - 1/5"
	MEDIUM 1/64" - 1/16"
	FINE 1/300" - 1/64"
SILT AND CLAY	LESS THAN 1/300"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATIONLEGEND - SOIL  
(SHEET 2 OF 2)

NO SCALE

A10G